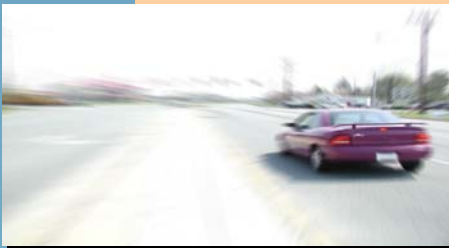


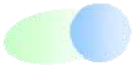
South State Street Land Use & Transportation Plan

Executive Summary



November 2005

Introduction



The South State Street Land Use and Transportation Plan was initiated in June of 2003 as a joint effort between DeIDOT and Kent County. The goal of the plan was to develop a set of integrated transportation and land use strategies to support the area's designation as a Growth Zone while maintaining or improving the quality of life for residents.

The area has been growing at a rapid pace. Households have increased by 33% between 1990 and 2005. During that time new certificates of occupancy have increased over 400% while traffic along the corridor has grown at a steady pace. These trends have led to increases in delay for the traveling public and a perception of quality of life impacts for local residents.

*The **Goals** of the Plan are to:*

- *Assess the impact of future land development on the transportation system*
- *Identify land development, transit, roadway, bicycle and pedestrian strategies to be considered in developing scenarios*

Community Input and Outreach

Information and feedback from the community was crucial in the development of the plan. A Public Advisory Committee (PAC) was formed to bring together various members of the public, elected officials, government agencies, and other community stakeholders.

The PAC had two main functions:

1. Help DeIDOT and Kent County identify land use scenarios and transportation strategies for consideration
2. Provide feedback to DeIDOT and Kent County on each alternative plan

The PAC met eight times and was instrumental in completing this study.

Public Meetings

In addition to input from the PAC, two public meetings were held at the Postlethwait Middle School to gather input and advice from the community.

The meetings were advertised in local newspapers, on message boards along South State Street and the DeIDOT website (www.deldot.gov). A total of 140 people attended both meetings.



Study Area & Process

Study Area

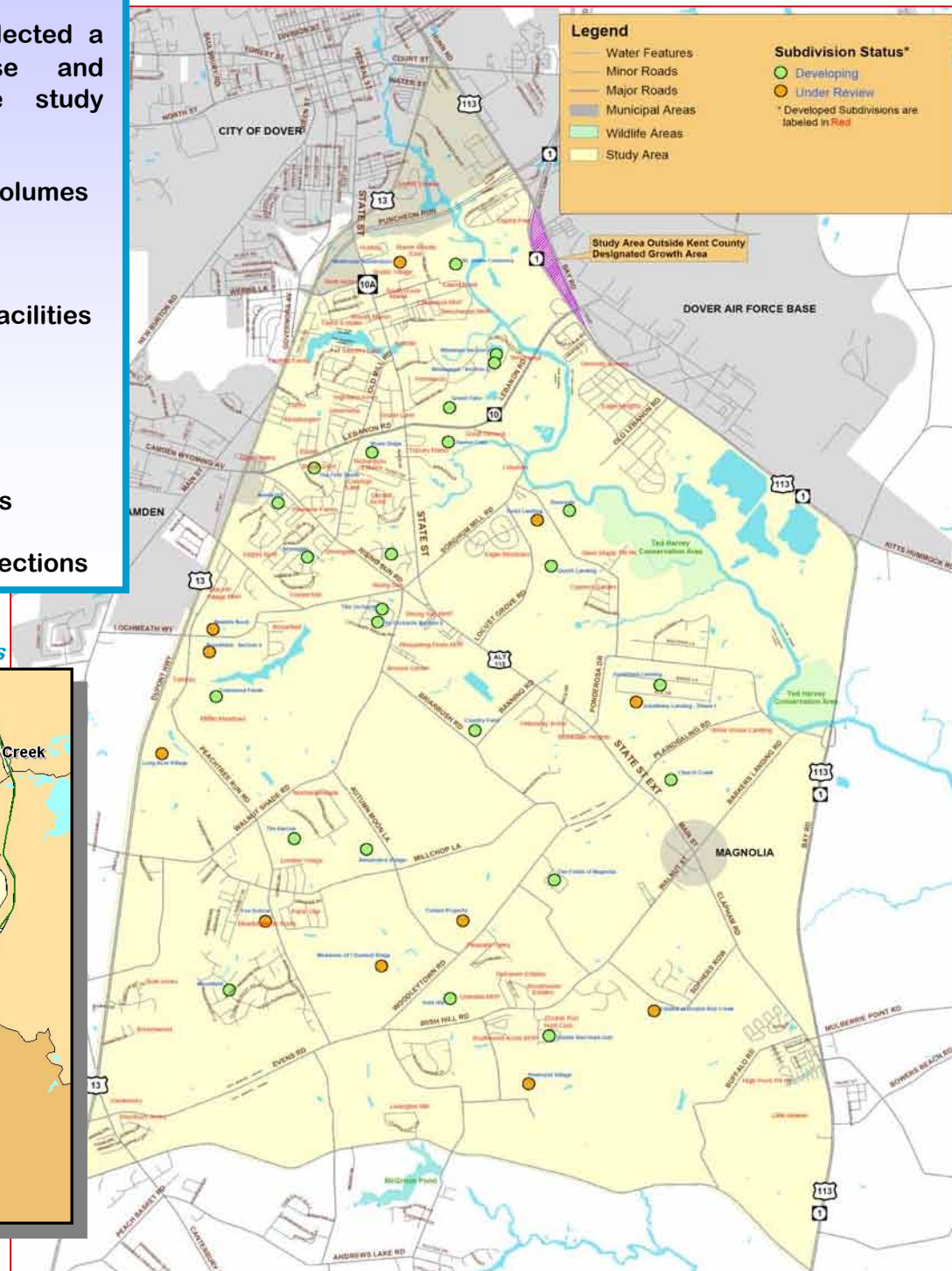
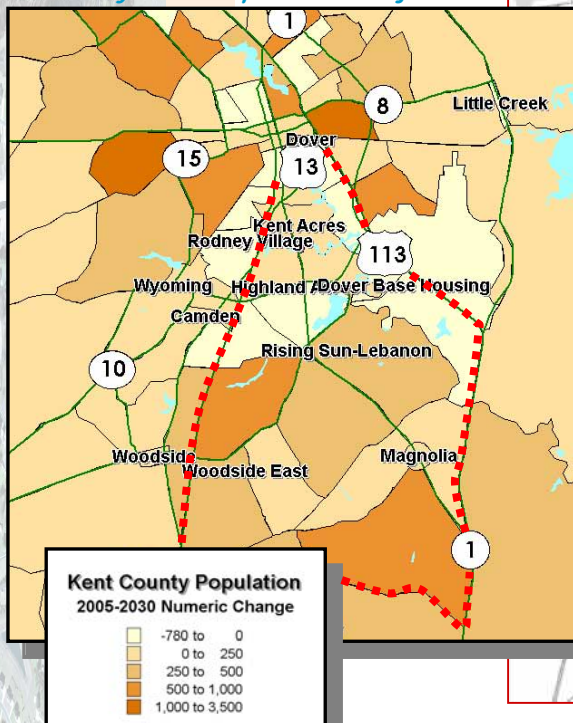
The study area for the Plan consists of South State Street from SR 1 in the south to US 13 in the north and is bounded by US 13 in the west and US 113/ SR 1 in the east (approximately 32 square miles).

Process

DeIDOT and Kent County collected a wide variety of land use and transportation data for the study including:

- Existing and projected traffic volumes
- Accident data
- Pedestrian / Bicycle / Transit facilities
- Zoning and land use plans
- Recent construction activity
- Existing environmental features
- Population and household projections

Study Area Population Projections



Future Development Scenarios

To assess the impact of future land development on the transportation system a set of three possible future growth scenarios were modeled and tested. Population and housing estimates were made for a range of possible future development levels for the Study to analyze.

Existing & Approved (2010)

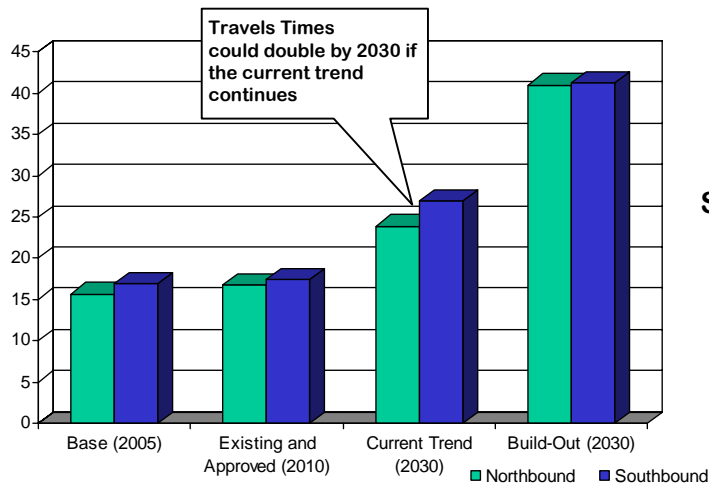
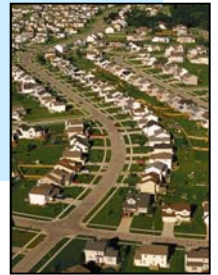
- Year 2010 Population Consortium land use and development trends and committed development identified by Kent County Department of Planning

Current Trend (2030)

- Current land use and development trends projected out to year 2030
- Assumes 1/3 of developable land will be built-on under existing zoning designations
- Assumes 80% of existing areas already zoned commercial will develop

Build-Out (2030)

- Assumes total build-out of the study area would occur by 2030
- Assumes existing lots sub-divided but not yet built on would develop

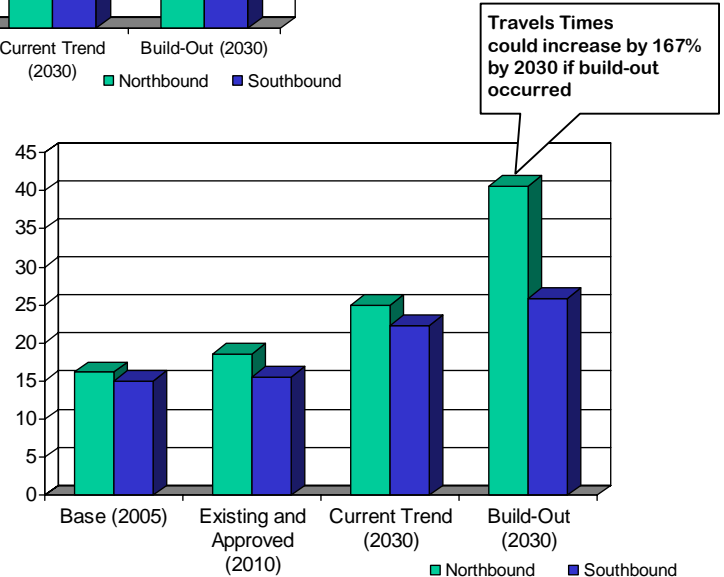


Travel Times
South State Street
AM Peak Hour
SR 1 to US13

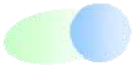
Scenarios

we used to develop estimates of how travel times along South State Street might change in the future

Travel Times
South State Street
PM Peak Hour
SR 1 to US13



What You Told Us



Both the PAC and public provided valuable insight into where improvements should be made along South State Street. Questionnaires were provided at each public meeting and many of the comments were incorporated into the final recommended plan.

Sample Question and Answers Received

“What Type of Transportation Improvements Would You Like Us to Consider?”

- Add Turn Lanes
- Add Thru Lanes
- Improve Signal Timing
- Limit Entrances Directly on South State Street
- Add Sidewalks and Bicycle Lanes
- Provide more DART Bus Stops
- Limit South State Street to Local Traffic only
- Limit Development along South State Street

Recommendations

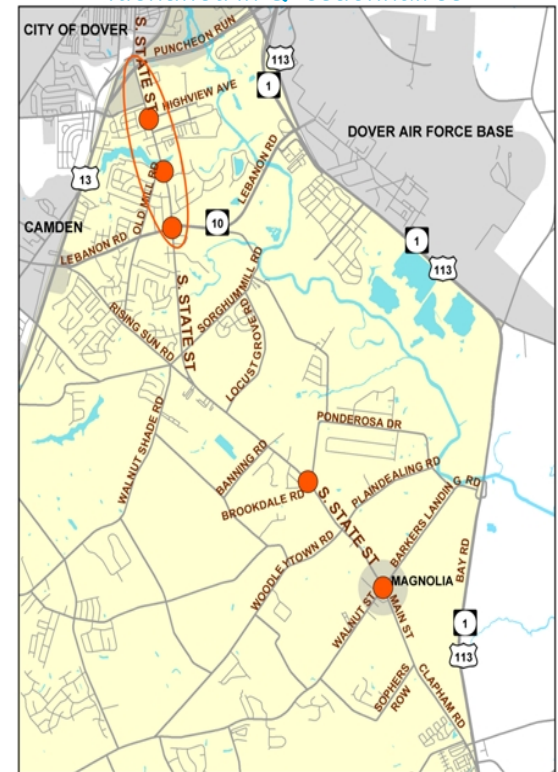
The recommendations made by the PAC and the public fall into several categories:

- Transportation Improvements
- Land use policy
- Bicycle / Pedestrian / Transit
- Study area monitoring

Time Frame

Travel demand modeling allowed the Study Team to forecast the amount of traffic that may result as development occurs. Traffic forecasts for selected future years (2010, 2020, and 2030) were analyzed to determine which improvement projects may be needed by what years. Some of the proposed improvements will be influenced by the actual pace of growth in the study area. Other factors that could influence the implementation of the improvements include the availability of funding for the larger capital projects and the completion of State and Federal environmental reviews. For the purpose of estimating when projects may be needed, short range was considered to be by the year 2010, mid-range was considered to be 2020 and long range was considered to be 2030.

Existing Problem Areas Identified in Questionnaires



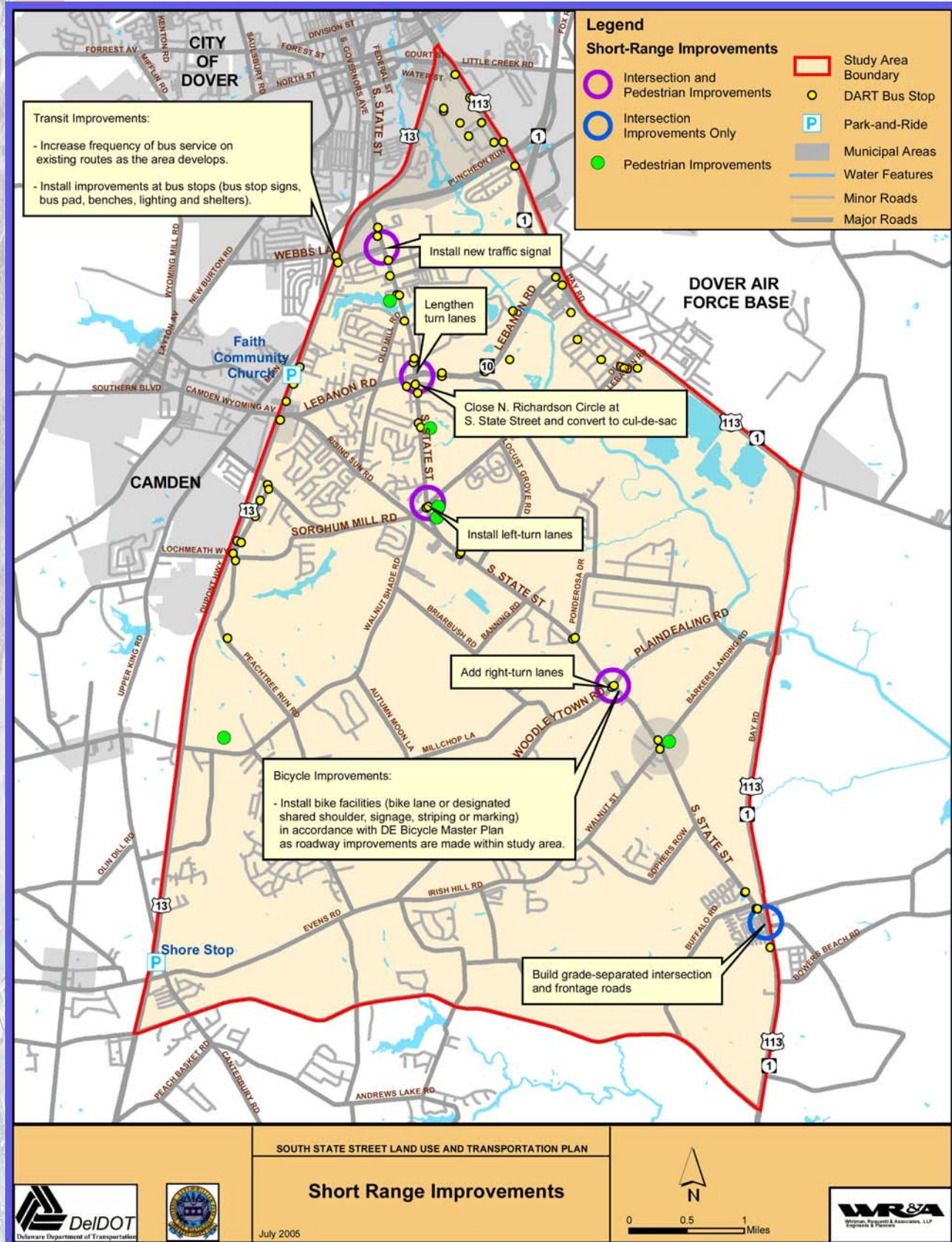
How We Responded



Improvements Potentially Needed in Short Range (by 2010)

Improvement	Area or Location	Type	Goal
Bicycle	<ul style="list-style-type: none"> Statewide Bike Route 2-State St Regional Bike Route K-4- SR 10 Recreational Connector- US 13 	Install bike facilities in accordance with Delaware Bicycle Facility Master Plan as roadways improvements are made	Improve multi-modal options for residents
Pedestrian	<ul style="list-style-type: none"> Existing DART Bus Stop Locations Charlton-Frear Elementary School McIlvaine Elementary School Postelthwait Middle School Polytech South High School Moore's Lake Recreation Area Tidbury Creek Park At improved intersections listed below (except SR 1 interchange improvements) 	Provide safe pedestrian access to stops Provide pedestrian improvements Provide pedestrian improvements (sidewalks, crosswalks, lighting)	Improve multi-modal options for residents
Transit	<ul style="list-style-type: none"> Along existing bus routes in the South State Street Study area At existing bus stops in the South State Street Study Area 	Increase frequency of bus service consistent with DART Business Plan (2003-2009) (e.g. provide a trip every 20 min. during peak period) Install improvements at bus stops (bus stop signs, bus pad, benches, lighting, shelters)	Improve multi-modal options for residents Improve multi-modal options for residents
Park and Rides	<ul style="list-style-type: none"> Faith Community Church Shore Stop 	Promote use of transit service and use of existing P&R lots	Improve multi-modal options for residents
Intersection Upgrades	<ul style="list-style-type: none"> South State St. at Webbs Lane South State St. at SR 10 South State St. at Sorghum Mill Rd South State St. at Woodleytown Rd 	Install new signal Lengthen southbound and northbound left and right turn lanes Add eastbound and westbound left turn lanes (with shared through/right turn lanes) Add eastbound and westbound right turn lanes	Provide gaps for side-street traffic Reduce delay Improve safety / Reduce delay Improve safety / Reduce delay
Other			
Roadway	<ul style="list-style-type: none"> North Richardson Circle 	Cul-de-sac Richardson Circle (North)	Reduce delay at SR 10
Roadway	<ul style="list-style-type: none"> Irish Hill Road 	Upgrade from South State Street to US13 with curbing, shoulders, turn lanes and sidewalks; identify bus stops for transit service (as per Dover / Kent County MPO Long Range Transportation Plan)	Improve safety and multi-modal options for residents
Traffic Signal Location Study	<ul style="list-style-type: none"> South State Street- from Little Heaven to US 13 	Study	Determine optimal locations fro new traffic signals

Improvements Potentially Needed in Short Range (by 2010)



How We Responded

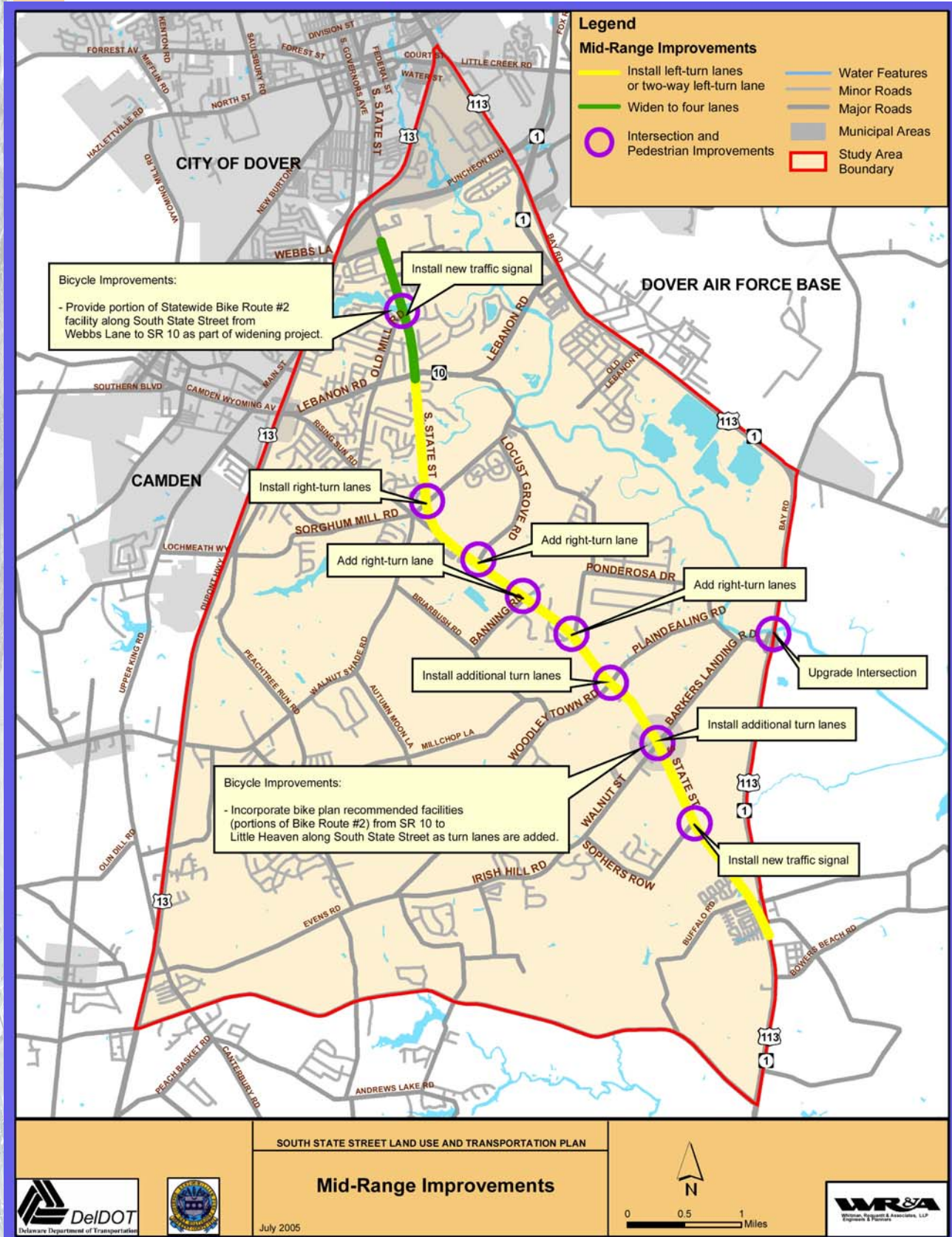


Improvements Potentially Needed in Mid Range (by 2020)

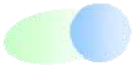
Improvement	Area or Location	Type	Goal
Bicycle	• South State Street at widening project from Webbs Lane to SR 10 and new turn lane locations	Complete portions of Statewide Bike Route 2	Improve multi-modal options for residents
	• Incorporate recommended bike (portions of Bike Route #2) facilities from SR 10 to Little Heaven along South State Street as turn lanes are added	Bike facilities	Improve multi-modal options for residents
	• Encourage Kent County to use the subdivision process to allow developers to seek multi-use paths to meet their requirements for active recreation	Multi-use paths	Improve multi-modal options for residents
Pedestrian	• Frequent Pedestrian Accident Locations	Provide pedestrian facilities improvements	Improve multi-modal options for residents
	• At improved intersections listed below	Provide pedestrian facilities improvements	Improve multi-modal options for residents
	• Encourage Kent County to use the subdivision process to allow developers to seek multi-use paths to meet their requirements for active recreation	Multi-use path	Improve multi-modal options for residents
	• Identify gaps in sidewalk network and seek means to complete network	Sidewalk connections	Improve multi-modal options for residents
Transit	• Along existing bus routes in the South State Street Study area	Provide more frequent bus service in the South State Street Study Area	Improve multi-modal options for residents
	• New bus routes in the South State	Provide new bus service to match emerging origin-destination patterns	Improve multi-modal options for residents
Park and Rides	• Additional park and ride sites within South State Street Study area	Identify new P&R locations to improve transit service	Improve multi-modal options for residents
Intersection Upgrades	• Old Mill Rd / South State St.	Install traffic signal/Turn lane improvements	Reduce delay
	• Sorghum Mill / South State St.	Install EB and WB right turn lanes	Reduce delay
	• Locust Grove Rd / South State St.	Add westbound right turn lane	Reduce delay
	• Banning Road / South State St.	Add eastbound right turn lane	Reduce delay
	• Ponderosa & Brookdale Rd / South State St.	Add EB and WB right turn lanes	Reduce delay
	• Woodley Town Rd & Plainedale Rd/ South State St.	Install additional turn lanes	Reduce delay
	• Irish Hill Rd / South State St.	Add left and right turn lanes	Reduce delay
	• South State St. at Sophers Row Rd.	Install new signal in accordance with Webb Property Traffic Impact Study recommendations	Improve safety / Reduce delay
Corridor Upgrades	• SR1 at Barkers Landing Rd.	Intersection improvements	Improve safety / Reduce delay
	• South State Street Corridor (from south of SR10 to Webbs La.)	Widen to provide a four-lane section (<i>Justified in approx. 2023 under Current Trend Scenario and in approx. 2016 under Build-Out Scenario</i>)	Improve safety / Reduce delay
	• South State Street Corridor (from south of SR10 to SR1)	Install two-way left turn lane or left turn lanes	Improve safety / Reduce delay
Other	• Improve / Add shoulders to Major Collector and Local Roads within Study Area	As per DelDOT Design Manual	Improve safety
	• Additional off-road pedestrian or multi-use paths with South State Street Study area	In cooperation with State, County and Municipal authorities	Improve multi-modal options for residents
	• Implementation of connector road between Allan Frear Elementary School and Postlethwait Middle School	In cooperation with Caesar Rodney School District	Reduce delay along South State St.

How We Responded

Improvements Potentially Needed in Mid Range (by 2020)



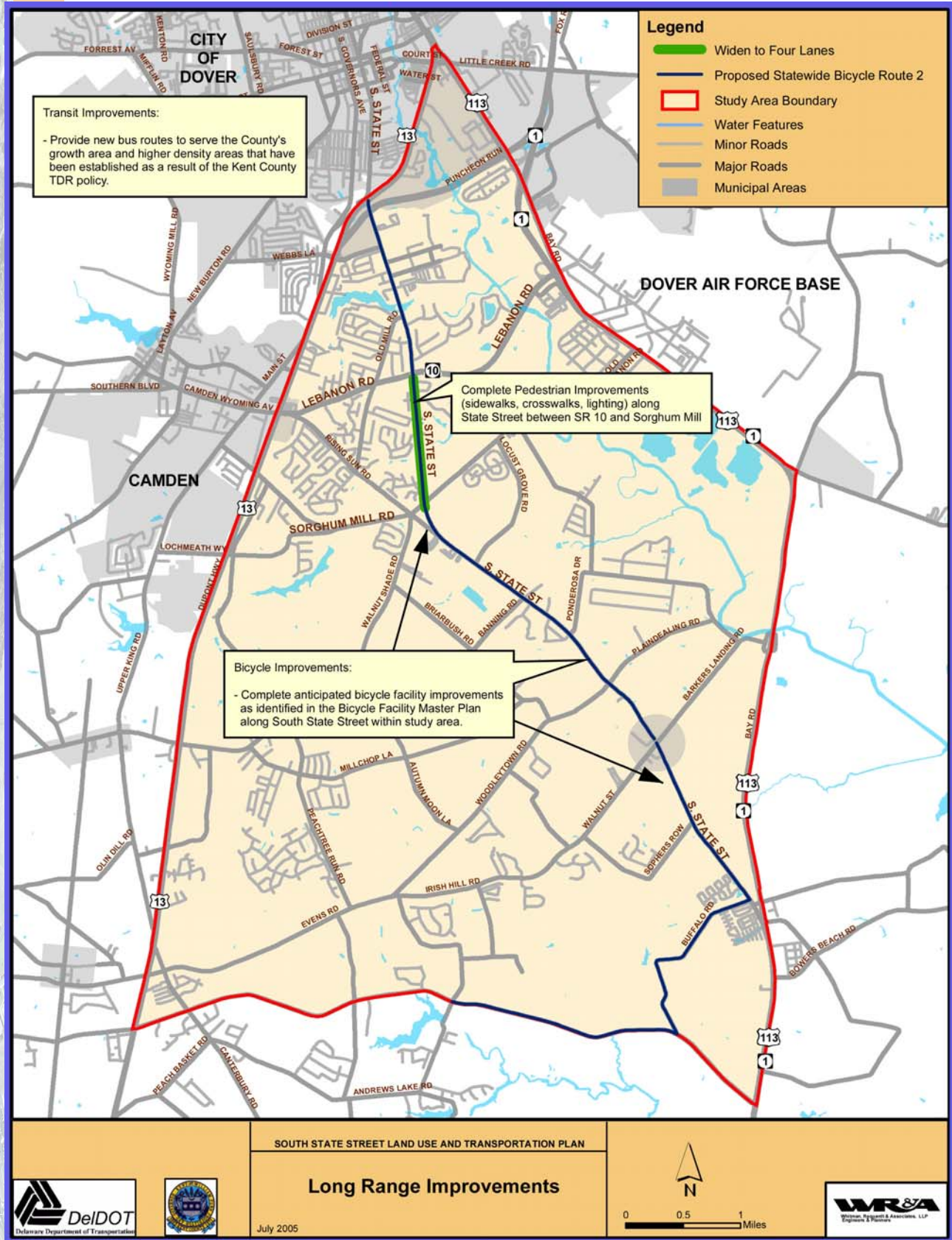
How We Responded



Improvements Potentially Needed in Long Range (by 2030)

Improvement	Area or Location	Type	Goal
Bicycle	<ul style="list-style-type: none"> • South State Street from SR10 to Sorghum Mill Road • Additional off-road pedestrian or multi-use paths within South State Street Study Area as alternative active recreation requirement for new developments) 	<p>Complete bicycle facility improvements in cooperation with State, County and Municipal authorities</p>	<p>Improve multi-modal options for residents</p> <p>Improve multi-modal options for residents</p>
Pedestrian	<ul style="list-style-type: none"> • South State Street from SR10 to Sorghum Mill Road • Frequent Pedestrian Accident Locations • Work with County to seek inclusion of sidewalks requirement in any Adequate Public Facilities Ordinance (APFO) that may be adopted 	<p>Complete pedestrian improvements (sidewalks, crosswalks, lighting)</p> <p>Improve pedestrian facilities</p> <p>Improve pedestrian facilities</p>	<p>Improve multi-modal options for residents</p> <p>Improve multi-modal options for residents</p> <p>Improve multi-modal options for residents</p>
Transit	<ul style="list-style-type: none"> • Study area high density or growth areas • Continued coordination with and promotion of other planning initiatives such as Livable Delaware that support increased transit service and use 	<p>Provide new bus routes to serve growth areas that have been established as a result of the Kent County Transfer of Development Rights (TDR) program</p>	<p>Improve multi-modal options for residents</p> <p>Improve multi-modal options for residents</p>
Corridor Upgrades	<ul style="list-style-type: none"> • South State Street Corridor (from south of Sorghum Mill Rd to SR 10) 	<p>Widen to provide additional four-lane section. Refer to estimated timeline on need for 4 lanes. Project planning & NEPA studies would be initiated if warranted. If project not feasible, a two way left turn lane or left turn lanes would be proposed.</p>	<p>Reduce Delay</p>

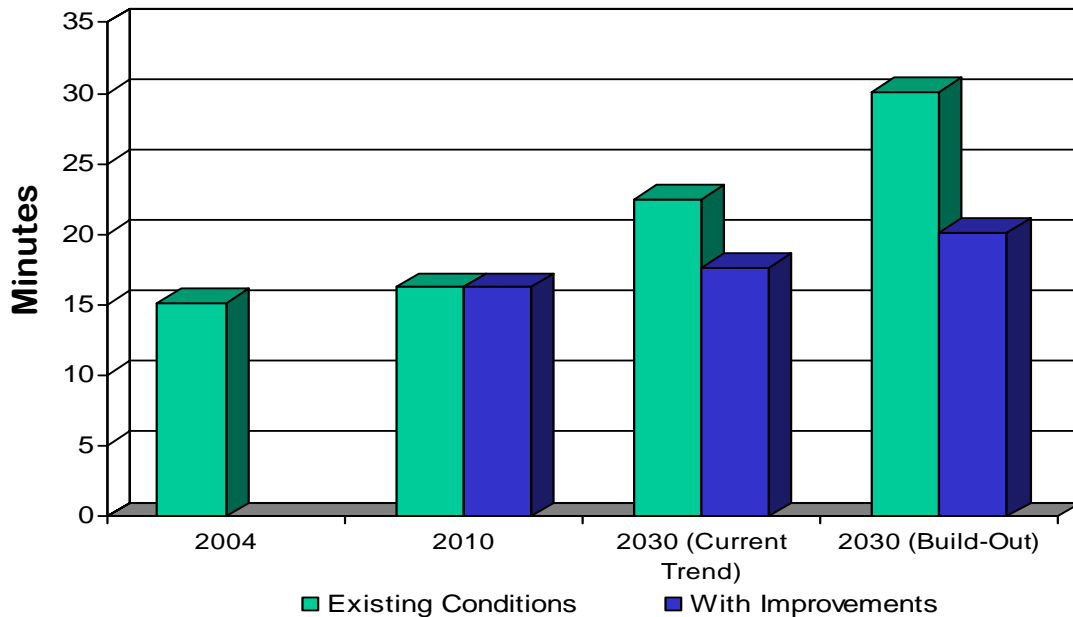
Improvements Potentially Needed in Long Range (by 2030)



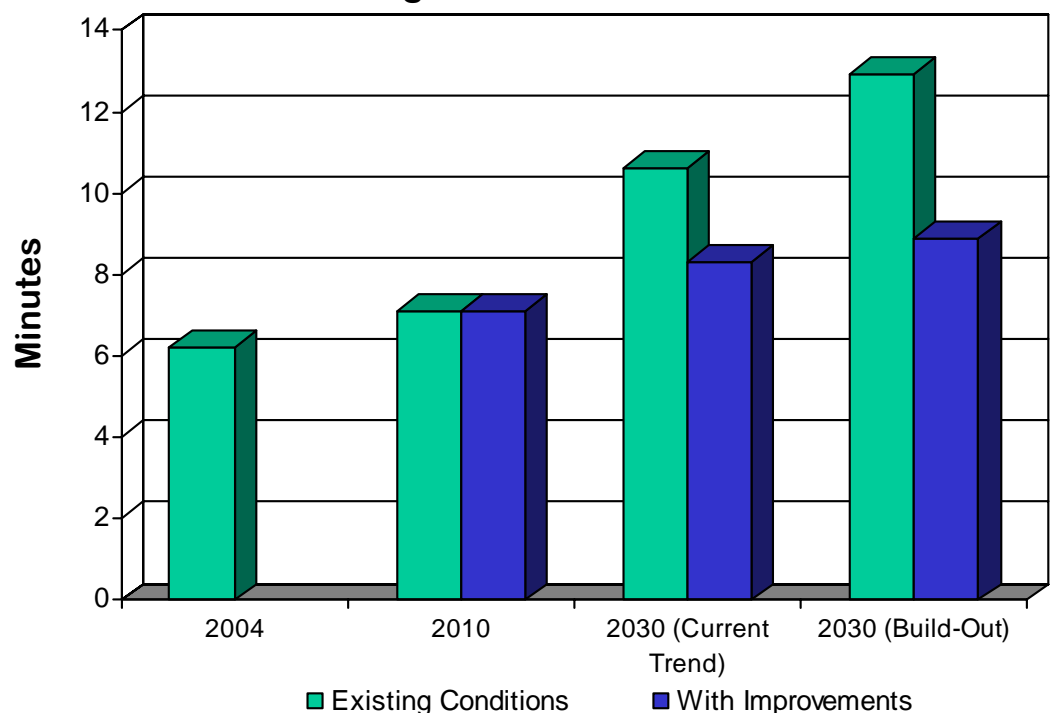
Will the Improvements Help?

One of the performance measures the Study Team looked at was the predicted change in travel time for the average driver with and without the recommended transportation improvements.

Peak Hour Travel Times along S. State Street
SR 1 to U.S. 13



Peak Hour Travel Times along S. State Street
Sorghum Mill Road to U.S. 13

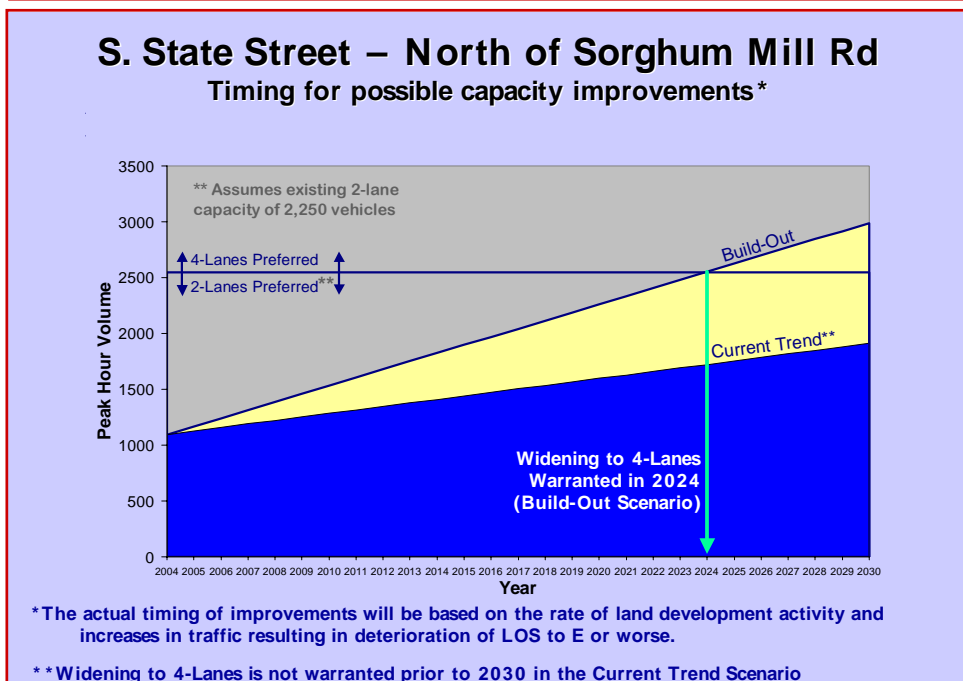
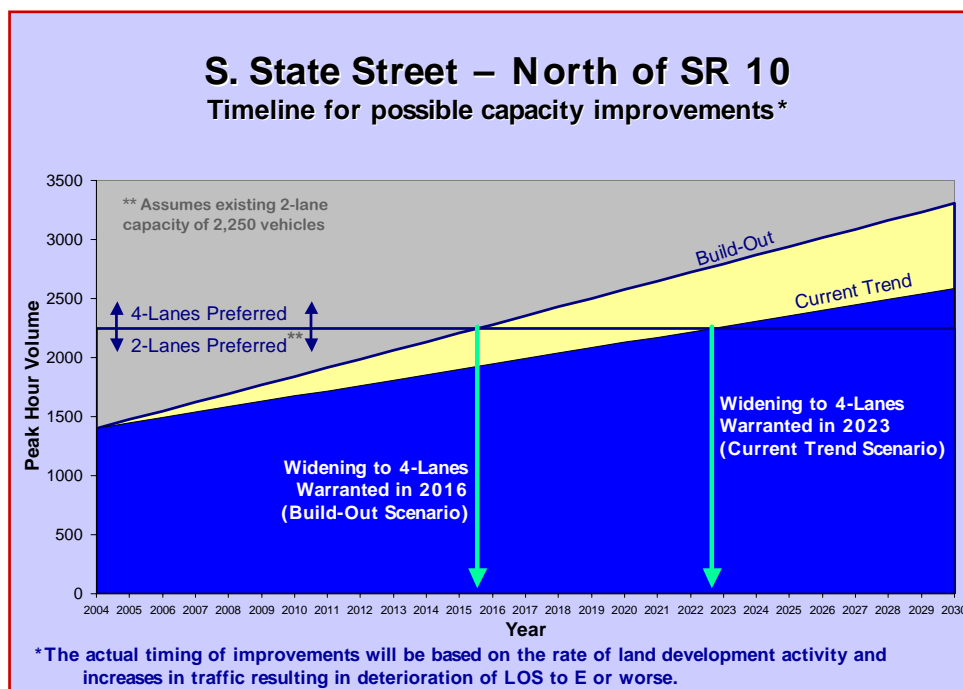


Travel Times
were just one of the performance measures the Study Team considered when evaluating how well the improvements would work

Timeline for Possible Capacity Improvements

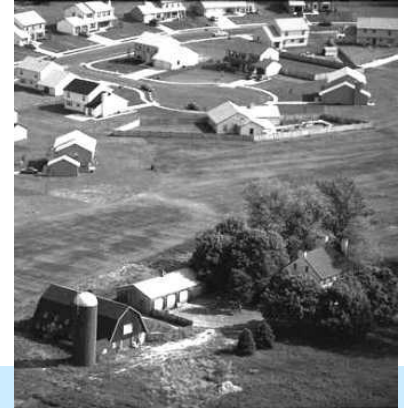
The possible need to widen South State Street from two to four lanes sometime in the future was the most significant improvement considered by the PAC and the public. Traffic models allowed the Study Team to identify timeframes to serve as the basis for the implementation of recommended project improvements.

The Study Team sought to ensure that no significant improvements would be recommended for implementation until enough “real world data” was collected to warrant those improvements. Therefore, a timeline was developed that identified traffic volume thresholds needed to justify a possible widening of South State Street.



Land Use Policy Recommendations

In addition to the transportation improvements shown earlier the PAC made recommendations regarding land use policies. The DeIDOT and Kent County partnership that created this plan also specified that Kent County would consider the land use policy recommendations made by the PAC when updating their comprehensive plan.



Promote TDR program within Study Area

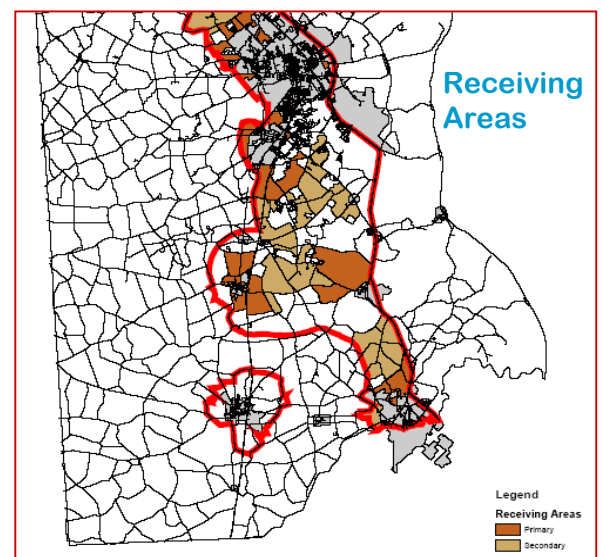
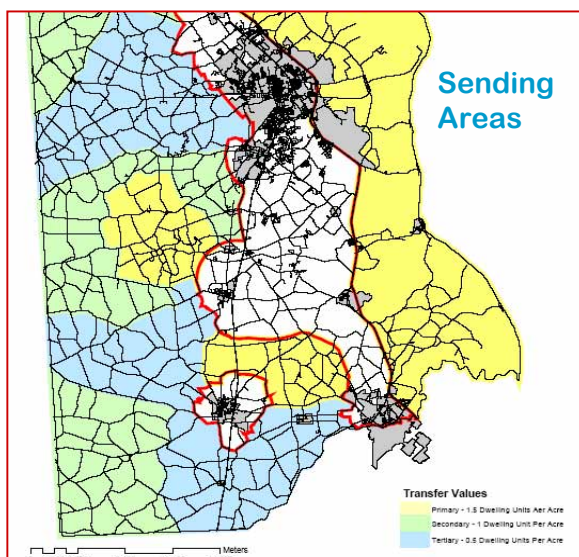
The Transfer of Development Rights (TDR) program adopted in 2004 allows a land owner to purchase development rights from a designated “sending” area and transfer those rights into a designated “receiving” area. The aim of the program is to promote orderly development in the Kent County Growth Zone while simultaneously preserving rural areas outside the Growth Zone. The Study Area’s designation as a receiving area (within the Kent County Growth Zone) may facilitate the approval of more mixed-use developments which could lead to reduced trips along South State Street and make more transit possible.

Adopt an Adequate Public Facilities Ordinance (APFO)

An APFO helps to ensure that transportation and other public infrastructure (schools, transit, or libraries) are provided in tandem with new residential and commercial development. This type of policy requires a program to be set up that links developer fees to the facilities needed to support the new development activity.

Adopt Design Standards for the South State Street Corridor

Corridor design standards can assure the adequacy of building setbacks, entrance requirements, and the provision of parking. Design standards can create a preferred appearance for the corridor. Standards that limit the number of driveway access points can also improve the flow of traffic along the corridor.



Next Steps



Monitoring Program

The PAC has also recommended the creation of a South State Street Corridor Monitoring Program. A Corridor Monitoring Committee would be established to periodically review conditions in the South State Street corridor and make adjustments to recommendations as necessary. Based on DeIDOT's successful US 40 Corridor Monitoring Program, the South State Street monitoring program would operate by identifying thresholds or "triggers" for proposed major improvements. Some of the factors to be monitored by the committee include:

Land Development Activity

- Development location
- Number of units
- Traffic generated
- Status of projects

Projected Traffic Volumes

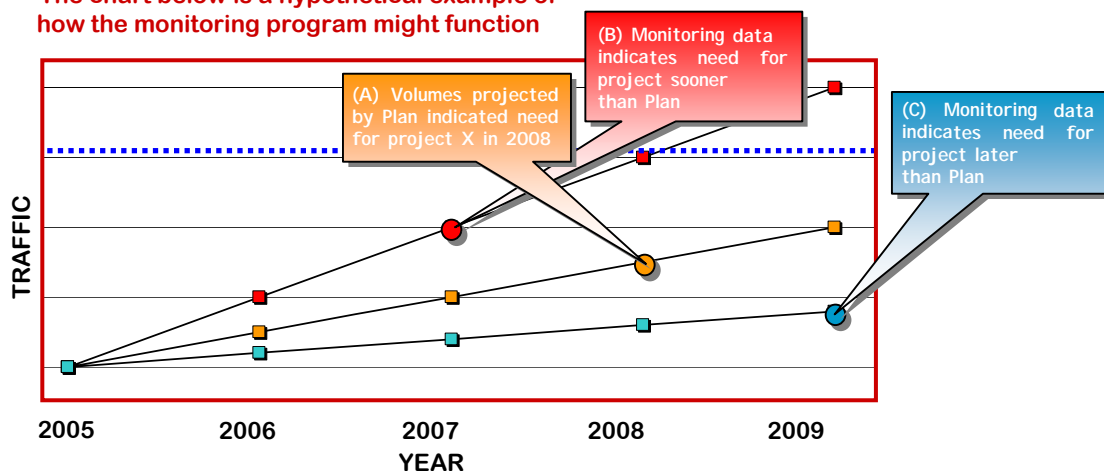
- Average daily traffic
- Current counts at key locations
- Short and long term forecasts
- Changes in intersection level of service (LOS)

Transit Service

- Existing service/ridership
- Needed changes in promotion or changes in service

Because the pace of development activity over time is always uncertain, this Committee's charge will be to focus on the Study area to determine the appropriate timing for project implementation. Representatives from DeIDOT, Kent County, the Dover-Kent MPO and the PAC would constitute the Committee. The Committee would meet on a regular basis to review data on existing transportation and development activity in the corridor. The Committee would also look at the forecasted trends to determine whether trigger points had been reached. When trends indicate that a recommended project is warranted, they would request that DeIDOT add it to the Capital Program for implementation.

The chart below is a hypothetical example of how the monitoring program might function





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